

WHAT IS CLAIMED IS:

1. A document retrieving and delivering method:

comprising the steps of:

registering retrieval conditions inputted from a plurality of users; and

retrieving, from texts of document information inputted, texts satisfying the retrieval conditions and delivering the texts to the users associated therewith, wherein

the retrieval and delivery step includes the steps of:

calculating similarity of the text for the retrieval condition;

determining according to the similarity whether or not the retrieval condition is satisfied; and

delivering, when the retrieval condition is satisfied, the text to the user corresponding to the retrieval condition.

2. A document retrieving and delivering method in accordance with claim 1, wherein:

the retrieval condition registration step comprises the steps of:

reading a word, a sentence, or a document (to be referred to as a seed document herebelow) from the

retrieval conditions registered by the users;

analyzing seed documents registered in the seed document read step and extracting retrieval terms therefrom for retrieval;

registering, for each retrieval term extracted in the retrieval term extraction step, a user identifier of a user having specified a seed document read in the seed document read step; and

registering a delivery condition written by each user in the retrieval condition and

the text retrieval and delivery step comprises the following steps of:

retrieving, for each text, a retrieval term extracted by the retrieval term extraction step;

obtaining the user identifier registered for the retrieval term retrieved in the retrieval term retrieval step;

calculating similarity of the text for each retrieval condition according to a predetermined calculation formula using information of appearances of the retrieval term retrieved in the retrieval term retrieval step and the user identifier obtained in the user identifier obtaining step; and

delivering a text of which the similarity

calculated in the similarity calculation step satisfies the delivery condition registered in the delivery condition registration step to a user of the delivery condition.

3. A document retrieving and delivering method in accordance with claim 2, further including

the step of calculating a weight for the retrieval term extracted in the retrieval term extraction step, wherein:

the text retrieval and delivery step includes an appearance count step, in place of the retrieval term retrieval step, of counting a number of appearances in the text of the retrieval term extracted in the retrieval term extraction step; and

a similarity calculation step, in place of the similarity calculation step, of calculating similarity of the text to each retrieval condition using the weight of the retrieval term calculated in the retrieval term calculation step and the number of appearances of the retrieval term counted in the appearance count step.

4. A document retrieving and delivering method in accordance with claim 2 or 3, wherein the text retrieval and delivery step includes

a step of controlling an order of calculating similarity of the text for the retrieval conditions.

5. A document retrieving and delivering method in accordance with claim 4, wherein the similarity calculation order control step includes

a step of determining the similarity calculation order according to a contract charging rate including predetermined delivery priority, a delivery priority specified by the user, or delivery priority of a delivery service.

6. A document retrieving and delivering method in accordance with claim 3, wherein the retrieval term weight calculation step includes the steps of:

calculating a number of texts in which the retrieval term extracted by the retrieval term extraction step appears; and

calculating a weight of the retrieval term using the number of texts calculated by the retrieval term appearance text count step.

7. A document retrieving and delivering method in accordance with claim 1, wherein the text retrieval and delivery step further includes

a step of saving all texts obtained and similarity of each of the text for the retrieval

condition of each of the users.

8. A document retrieving and delivering method in accordance with claim 7, further including

a delivery threshold setting support information presenting step of presenting, to the user, contents saved by the text retrieval and delivery step.

9. A document retrieving and delivering method in accordance with claim 8, wherein the delivery threshold setting support information presenting step presents the contents in the form of a list, the contents including similarity, delivery time, a delivery threshold value at delivery of the text delivered to the user.

10. A document retrieving and delivering method in accordance with claim 8, wherein the delivery threshold setting support information presenting step presents the contents including a number of texts for each similarity calculated in the past to the user.

11. A document retrieving and delivering method in accordance with claim 8, wherein the delivery threshold setting support information presenting step presents the contents in the form of a graph of similarity of texts obtained in the past versus text reception time.

12. A document retrieving and delivering method in

accordance with claim 1, further including

a step of comparing a calculation result of similarity of the text with a predetermined delivery threshold value as a reference value to determine delivery or non-delivery of the text and delivering, when the similarity of the text is greater than the delivery threshold value, the text to the user.

13. A document retrieving and delivering method in accordance with claim 12, further including

a step of delivery threshold setting step of setting a delivery threshold value for each user.

14. A document retrieving and delivering method in accordance with claim 13, further including:

the text retrieval and delivery step of claim 7;
and

the step of delivery threshold automatic setting step of scanning the text saved in the text retrieval and delivery step, calculating similarity of the text for the retrieval condition set by each user, and thereby calculating and setting a delivery threshold value for each user.

15. A document retrieving and delivering method in accordance with claim 13, further including:

the step of delivery threshold setting support.

information presenting step of claim 9, 10, or 11,
wherein

the delivery threshold setting support
information presenting step presents the presenting
information in claim 9, 10, or 11 when the user sets a
delivery threshold value.

16. A document retrieving and delivering method in
accordance with claim 13, further including:

the text retrieval and delivery step of claim 7;
and

the delivery threshold setting trial step of
selecting, from all texts within a predetermined period
of time in the past, texts of which the similarity of
claim 1 exceeds a new delivery threshold value set and
presenting the texts selected to the user.

17. A document retrieving and delivering method in
accordance with claim 12 or 13, further including:

the text retrieval and delivery step of claim 7;
and

a text additional delivery step of delivering,
according to the information saved in the text
retrieval and delivery step, the texts of which
similarity is equal to or less than the delivery
threshold value of claim 12 texts in a descending

similarity order beginning at a text having highest similarity until a number of deliveries or a delivery frequency desired by the user is satisfied.

18. A document retrieving and delivering method in accordance with claim 13, further including:

the text retrieval and delivery step of claim 7;
and

a delivery threshold correction proposal presenting step of presenting a message to user to correct the delivery threshold value according to the information saved in the text retrieval and delivery step.

19. A document retrieving and delivering method in accordance with claim 1, further including

a desired delivery count setting step of setting a desired number of delivery texts desired by the user within a fixed period of time or within a period of time set by the user.

20. A document retrieving and delivering method in accordance with claim 19, further including:

the text retrieval and delivery step of claim 7;
and

a delivery threshold automatic setting step of setting a delivery threshold for each user for each

predetermined period of time according to the number of texts set in the desired delivery count setting step and the information saved in the text retrieval and delivery step.

21. A document retrieving and delivering method in accordance with claim 1, further including:

the delivery threshold setting step of claim 13;
the desired delivery count setting step of claim 19; and

a delivery condition setting mode selection step for enabling the user to select for operation either one of the delivery threshold setting step and the desired delivery count setting step.

22. A document retrieving and delivering apparatus: comprising:

retrieval condition registering means for registering retrieval conditions inputted from a plurality of users; and

retrieval and delivery means for retrieving, from texts of document information inputted, texts satisfying the retrieval conditions and delivering the texts to the users associated therewith, wherein

the retrieval and delivery means calculates similarity of the text for the retrieval condition,

determines according to the similarity whether or not the retrieval condition is satisfied, and delivers, when the retrieval condition is satisfied, the text to the user corresponding to the retrieval condition.

23. A document retrieving and delivering program: comprising the steps of:

registering retrieval conditions inputted from a plurality of users; and

retrieving, from text data of document information inputted, texts satisfying the retrieval conditions and delivering the texts to the users associated therewith, wherein

the retrieval and delivery step includes the steps of:

calculating similarity of the text for the retrieval condition;

determining according to the similarity whether or not the retrieval condition is satisfied; and

delivering, when the retrieval condition is satisfied, the text to the user corresponding to the retrieval condition.

24. A computer-readable recording media storing therein a document retrieving and delivering program; comprising the steps of:

registering retrieval conditions inputted from a plurality of users; and

retrieving, from text data of document information inputted, texts satisfying the retrieval conditions and delivering the texts to the users associated therewith, wherein

the retrieval and delivery step includes the steps of:

calculating similarity of the text for the retrieval condition;

determining according to the similarity whether or not the retrieval condition is satisfied; and

delivering, when the retrieval condition is satisfied, the text to the user corresponding to the retrieval condition.

25. A document retrieving and delivering method of delivering to a user a text satisfying a retrieval condition obtained from said user, comprising:

a retrieval condition registering step of obtaining retrieval conditions from each of a plurality of users and storing said retrieval conditions in a manner that each of said retrieval conditions is associated with respective user identifiers of each of said users; and

a text retrieving and delivering step of calculating similarity of a text for each retrieval condition and delivering said text to a user corresponding to a user identifier associated with said retrieval condition including a delivery condition which is satisfied by said similarity.

26. A document retrieving and delivering method according to claim 25, wherein said retrieval condition registering step comprises:

a seed document reading step of reading a seed document described in the registered retrieval conditions, wherein said seed document includes one of a word, a sentence, and a document;

a retrieval term extracting step of analyzing said seed document read in said seed document reading step and extracting a retrieval term to be used in retrieving; and

a user identifier registration step, for each retrieval term extracted in said retrieval term extracting step, of registering a user identifier of a user who specified said seed document read in said seed document reading step.

27. A document retrieving and delivering method according to claim 26, wherein said text retrieving and

delivering step comprises:

a retrieval term retrieving step, for a text of input document information, of retrieving said retrieval term extracted in said retrieval term extracting step;

a user identifier taking out step, for each retrieval term retrieved in said retrieval term retrieving step, of taking out said registered user identifier;

a similarity calculating step of calculating similarities of said text for each of said retrieval conditions according to a predetermined formula using information of appearances of said retrieval term retrieved in said retrieval term retrieving step and said user identifier taken out in said user identifier taking out step; and

a text delivering step of delivering to a corresponding user a text which has similarity calculated in said similarity calculating step satisfying a predetermined delivery condition.

28. A document retrieving and delivering method according to claim 26, wherein said retrieval condition registering step comprises a retrieval term weight calculation step of calculating a weight for said

retrieval term extracted in said retrieval term extracting step, and said text retrieving and delivering step comprises:

an appearance frequency counting step of counting an appearance frequency of said retrieval term extracted in said retrieval term extracting step in said text; and

a similarity calculation step of calculating similarity of said text for each retrieval condition by using said weight for said retrieval term calculated in said retrieval term weight calculation step and said appearance frequency of said retrieval term counted in said appearance frequency counting step.

29. A document retrieving and delivering method according to claim 25, wherein said text retrieving and delivering step comprises a similarity calculation order control step of controlling an order of calculations for calculating similarity of an obtained text for said retrieval conditions.

30. A document retrieving and delivering method according to claim 29, wherein said similarity calculation order control step comprises a similarity calculation order determination step of determining said order of calculations for calculating similarity

on the basis of a predetermined delivery priority and a contract charging rate including a delivery priority specified by a user or a delivery priority of delivery service.

31. A document retrieving and delivering method according to claim 28, wherein said retrieval term weight calculation step comprises:

a retrieval term appearance text counting step of counting a number of texts in which said retrieval term extracted in said retrieval term extracting step appears; and

a weight utilizing text number calculation step of calculating a weight of said retrieval term by using said number of texts counted in said retrieval term appearance text counting step.

32. A document retrieving and delivering method according to claim 25, wherein said text retrieving and delivering step comprises a text holding step of holding a text satisfying said retrieval condition obtained in said retrieval and similarity of said text for each retrieval condition of each user.

33. A document retrieving and delivering method according to claim 32, further comprising a delivery condition setting support information exhibition step

of exhibiting contents held in said text holding step to a user.

34. A document retrieving and delivering method according to claim 33, wherein said delivery condition setting support information exhibition step comprises a step of exhibiting a list of similarity, a delivery time and a delivery condition set at delivery of a text delivered to said user.

35. A document retrieving and delivering method according to claim 33, wherein said delivery condition setting support information exhibition step comprises a step of exhibiting each number of texts which are classified according to similarity levels calculated in the past.

36. A document retrieving and delivering method according to claim 33, wherein said delivery condition setting support information exhibition step comprises a step of exhibiting a graph of similarities of texts obtained in the past versus text reception time.

37. A document retrieving and delivering apparatus for delivering to a user a text satisfying a retrieval condition obtained from said user, comprising:

a retrieval condition registering unit for obtaining retrieval conditions from each of a plurality

of users and storing said retrieval conditions in a manner that each of said retrieval conditions is associated with respective user identifiers of each of said users; and

a text retrieving and delivering unit for calculating similarity of a text for each retrieval condition and delivering said text to a user corresponding to a user identifier associated with said retrieval condition including a delivery condition which is satisfied by said similarity.

38. A document retrieving and delivering apparatus for delivering to a user a text satisfying a retrieval condition obtained from said user, comprising:

a retrieval condition registration unit, comprising:

a retrieval condition registration control unit for obtaining a retrieval condition from each of a plurality of users;

a seed document reading unit for reading a seed document described in said retrieval conditions, wherein said seed document is one of a word, a sentence, and a document;

a retrieval term extracting unit for analyzing said seed document read by said seed document reading

unit and extracting a retrieval term to be used in retrieving;

a user identifier registration unit, for each retrieval term extracted by said retrieval term extracting unit, for registering a user identifier of a user which specified said seed document read by said seed document reading unit; and

a delivery condition setting unit for storing a delivery condition corresponding to each retrieval condition in a manner that each delivery condition is associated with said user identifier of each user; and

a text retrieving and delivering unit comprising:

a retrieval term retrieving unit, for text of an input document information, for retrieving said retrieval term extracted by said retrieval term extracting unit;

a user identifier taking out unit, for each retrieval term retrieved by said retrieval term retrieving unit, for taking out said registered user identifier;

a similarity calculating unit for calculating similarity of said text for each of said retrieval conditions according to a predetermined formula using information of appearances of said retrieval term

retrieved by said retrieval term retrieving unit; and

a text delivering unit for delivering to a corresponding user a text which has similarity calculated by said similarity calculating unit satisfying a predetermined delivery condition stored by said delivery condition setting unit.

39. A document delivering system for delivering a document retrieved among document information to be retrieved, comprising:

a retrieval condition formula registration unit for registering a retrieval condition formula specified by at least one user, said retrieval condition formula including at least one retrieval term; and

a document retrieving and delivering unit for determining whether or not said retrieval condition formula is satisfied for said document information by scanning once said document information when said document information is obtained, and delivering said document information to a user for whom said retrieval condition formula is satisfied.

40. A document delivering system according to claim 39, further comprising:

query expression analyzing means for extracting all query terms for query expressions specified by a

plurality of users;

means for generating a query term number count table which has stored therein management information including said users and the number of all said query terms extracted from said query expressions of said users;

means for generating a multiple strings matching table to which reference is made when text data is once scanned so that the corresponding terms occurring during the scanning can be matched with all the query terms extracted from said query expressions;

means for generating a user list having identifiers of said users who specified said query expressions in association with said query terms extracted from said query expressions, said user identifiers and said query terms being connected as a list in association with each other;

means for scanning said text data with reference to said multiple strings matching table to match the corresponding terms occurring during the scanning with all said query terms extracted by said query expression analyzing means when decision is made of whether or not said query expressions are satisfied in said text data; and

means for deciding if said query expressions are satisfied in said text data by referring to said query terms matched by said text scanning means, said user list and said query term number count table.

41. A document delivering system according to claim 40, wherein said query expression deciding means comprises:

query term occurrence count calculating means for calculating with reference to said user list the occurrence count of query terms matched for each user by said text scanning means; and

means for comparing the occurrence count of query terms calculated by said query term occurrence count calculating means with the number of query terms stored in said query term number count table, and deciding that the associated query expression including said query terms is satisfied.